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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO.           |
|---|-------------|----------------------|---------------------|----------------------------|
| 10/724,369  | 11/26/2003  | Michael E. Sproul    | SIED.P-003          | 1491                       |
| 57381   | 7590        | 09/28/2009           | EXAMINER            |                            |
| Larson & Anderson, LLC<br>P.O. BOX 4928<br>DILLON, CO 80435 |             |                      |                     | SEVILLA, CHRISTIAN ANTHONY |
| ART UNIT  |             | PAPER NUMBER         |                     |                            |
| 3775  |             |                      |                     |                            |
| MAIL DATE   |             | DELIVERY MODE        |                     |                            |
| 09/28/2009  |             | PAPER                |                     |                            |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/724,369             | SPROUL, MICHAEL E.  |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | CHRISTIAN SEVILLA      | 3775                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 08 June 2009.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-40 is/are pending in the application.  
 4a) Of the above claim(s) 1-40 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 18-25 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

|   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/26/2003</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
|   | 6) <input type="checkbox"/> Other: _____ .                        |

## **DETAILED ACTION**

Applicant's Amendment, filed 8 June 2009, is acknowledged. New claims 18-40 are entered. Claims 1-17 are canceled. Claims 26-40 are withdrawn.

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8 June 2009 has been entered.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 18-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber et al. (US 2005/0165439), hereinafter Weber, in view of Layne et al. (US 2002/0026195), hereinafter Layne.

Regarding claim 18, Weber discloses a system including a transducer, or balloon radially advanced by direct volumetric expansion of an active region {paragraph [0011]}; and an electrical power source, or source of electric potential [0052]. The transducer comprises an electroactive polymer {paragraph [0011]}. The electroactive polymer is

sandwiched between a pair of electrodes {an electrolyte and a counter electrode; paragraph [0052]}. Weber fails to disclose a cannula having an interior lumen; and passage of the transducer through the interior lumen of the cannula.

Attention however is directed to Layne, which teaches an expandable structure (50) inserted through a hollow member (210) into a vertebral body; and wherein a cavity is created in cancellous bone {paragraph [0084]}.

It would have been obvious to a person having ordinary skill in the art at the time of the invention to have modified Weber in view of Layne to include a cannula having an interior lumen, since doing so would have permitted placing the transducer in a precise location in the body using a small incision, thereby promoting minimally invasive surgery.

Regarding claim 19, the combination of Weber and Layne teaches the cannula having an aperture wherein the electroactive polymer when in the first state is contained within the cannula and when in the second state extends outwards through the aperture {Layne Figs. 24 and 25; Layne paragraph [0045]}. Doing so would have permitted simple insertion of the device through small incision by means of the cannula, thereby facilitating minimally invasive surgery.

Regarding claim 20, Weber discloses the transducer comprises more than one pair of electrodes, as Weber discloses more than one electroactive member (430) of balloon catheter shaft (400).

Regarding claim 21, the combination of Weber and Layne teaches the cannula having an aperture wherein the electroactive polymer when in the first state is contained

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within the cannula and when in the second state extends outwards through the aperture {Layne Figs. 24 and 25; Layne paragraph [0045]}, Doing so would have permitted simple insertion of the device through a small incision by means of the cannula, thereby facilitating minimally invasive surgery.

Regarding claims 22 and 23, Weber discloses a frame (425) affixed to the electroactive polymer.

Regarding claim 24, Weber discloses the transducer is connected to the electrical power source by a cable, or electrically conductive member such as gold wire {paragraph [0101]}.

1. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weber in view of Layne, as above, and further in view of Gelsomini et al. (US 6368901), hereinafter Gelsomini.

Weber fails to disclose the transducer is connected to the electrical power source by radio frequency energy.

Gelsomini teaches a device powered wirelessly and continuously by radio-frequency signals.

It would have been obvious to a person having ordinary skill in the art at the time of the invention to have modified Weber in view of Gelsomini to have constructed the transducer connected to the electrical power source by radio frequency energy. Doing so would have eliminated any possible encumbrance due to wiring, thereby making the device easier to handle by the surgeon during surgery.

***Response to Arguments***

2. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTIAN SEVILLA whose telephone number is (571)270-5621. The examiner can normally be reached on Monday through Thursday, 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, THOMAS C. BARRETT can be reached on (571)272-4746. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CHRISTIAN SEVILLA/  
Examiner, Art Unit 3775

/Thomas C. Barrett/  
Supervisory Patent Examiner, Art  
Unit 3775